



# Scaling Windows Server Storage to the Datacenter with Serial Attached SCSI

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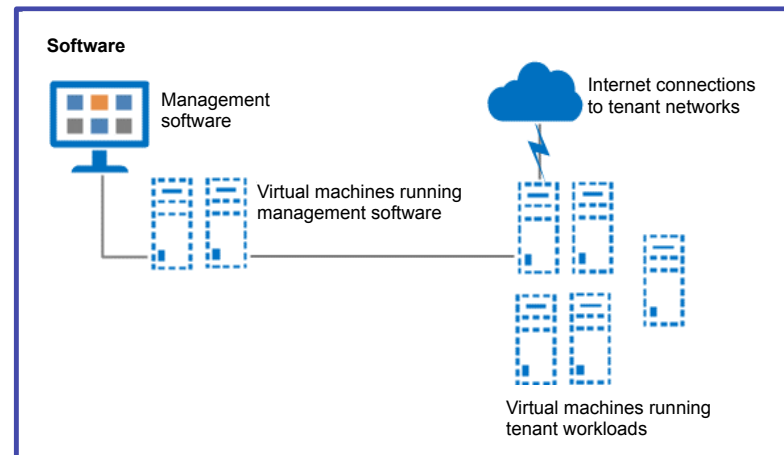
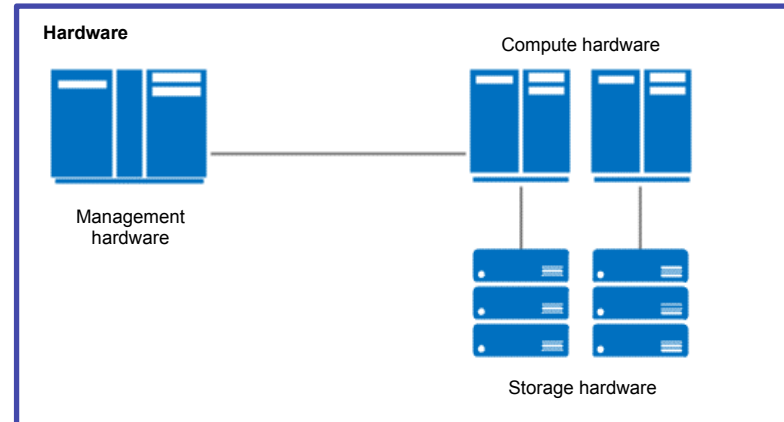
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# Designing a Scalable Windows Datacenter

## What a datacenter solution needs

- Industry standard components
- Converged / integrated hardware designs
- Less expensive storage options
- Simplified deployment and management tools
- Scalability
- Availability





# SAS as Part of System Design Considerations for Continuous Availability Cluster

## Availability

- At least one node and SAS storage always available
- Dual power and SAS domains

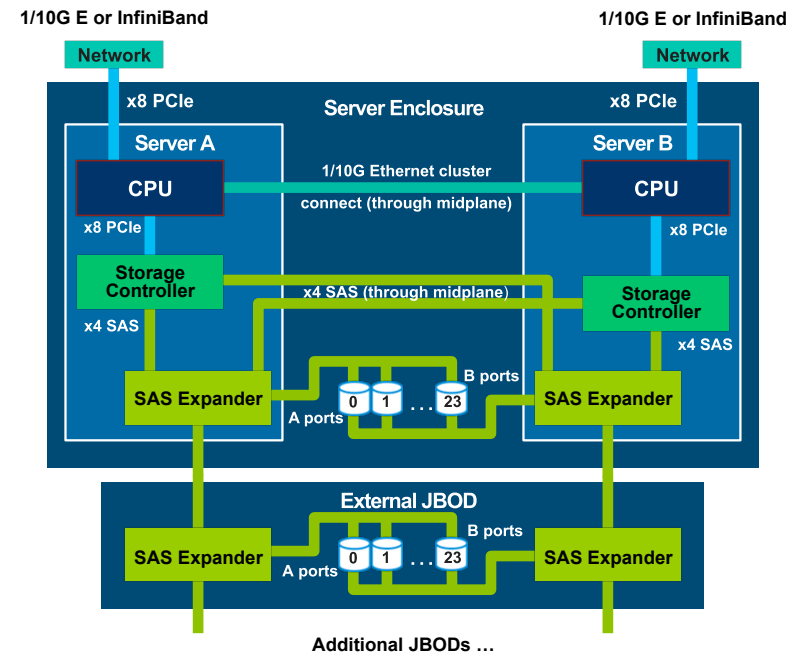
## Simplicity

- Pre-wired SAS connections
- Standard SAS products available in the market

## Flexibility

- PCIe slots for flexible LAN options
- External SAS ports for JBOD expansion
- Broad SAS ecosystem

## 2-node Design Example (with Direct-Attached SAS)



Serial Attached SCSI used as data connection and storage controller interconnectivity

# Scaling Storage with SAS

## N+2 redundancy

- 4-node storage cluster
- 4 JBODs with SAS SSDs & HDDs
- Enclosure-aware 3-way mirror or dual parity

## Performance

- SAS SSDs configured in tiered storage spaces
- RDMA-capable NICs

## SAS details

- SAS expander configuration
- SAS disk controller supported configurations

